The Impact of War on Commodity Prices

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MOST spectacular among the immediate economic reactions to the outbreak of war in Europe was the upward spurt in prices of basic commodities. Under the impetus of a buying wave of extreme proportions in organized commodity markets, prices responded sharply and rapidly. Professional traders, the public, and manufacturers alike participated in the purchasing. The upward surge was quite general and without major exception among the volatile commodity prices. The advance during the first week of war was probably of record size for so short a period of time.

In contrast with the situation that prevailed in 1914, the present European war began during the expansion phase of an economic cycle in the United States. Domestic business had been expanding throughout the summer months. The Federal Reserve Board's adjusted index of industrial production showed an average rise of over 3 points a month since May—from a figure of 92 for that month to 102 for August (1923–25=100). The increase in manufactures during the same period was even larger, the index advancing from 91 to 104. The volume of fall buying in wholesale markets indicated that the business community was less hesitant to make commitments than in much of the period since the 1937 collapse. Economic analysts generally looked for a continued if moderate expansion in business volumes through the fourth quarter. The short-term outlook for business seemed reasonably assured.

It is upon this economic setting that war broke. The immediate repercussions in the economic sphere revealed the existence of widespread expectations that war-time inflation would soon appear. A speculative and protective buying wave broke in wholesale markets in anticipation of higher prices and future shortages. Even the consumer rushed in to obtain a stock of some commodities which he remembers were scarce and expensive 20 years ago.

The effect upon sensitive commodity prices was quite dramatic. Within a week basic commodities made substantial gains in both spot and future quotations. As an indication of what happened, Moody's spot price index of 15 sensitive commodities rose from 140.3 (December 31, 1931=100) on Thursday, August 31, to 169.1 on Thursday, September 7. After advancing to 146.9 on Friday, September 1, the index jumped to 161.7 on the Tuesday after Labor Day. Customer's margin requirements were raised on many commodity exchanges, and allowed price movements for one day's trading in grain futures were widened in an attempt to facilitate orderly markets. Having reached the week's peak on Thursday, the index settled several points in the next few days but rose again to 169.1 by the end of the following week. On Friday, September 22, it stood at 172.8. During the early part of the month, quotations on some commodities were purely nominal.

The first week of war had a similar effect on the prices of futures contracts. The Dow-Jones index of commodity futures covering 11 quotations rose from 47.8 on August 31 to 60.0 on September 7 (1924–26=100). On September 5th and 6th, futures contracts for most leading commodities rose the limits allowed for one day. Trading was often at a standstill for lack of sellers. Since that time there has been a general tendency for futures quotations to recede slightly as the speculative wave subsided and for the gap between spots and futures, created earlier in the month, to narrow.

Commodity prices generally were not at high levels when the war came, and farm prices were quite low. Moody's index had been fluctuating narrowly around 140 during August, a figure to which it had gradually receded from an approximate 145 level in the last week of May. The same movement was characteristic of a much broader range of commodities. The Bureau of Labor Statistics combined wholesale price index declined from 76.2 (1926=100) to 75.0 between May and August and had been moving lower for almost a year before. Thus, price movements over the summer contrasted with the upward movement of industrial production. The peculiar thing is that prices, which had been depressed by the threat of war, went up—not down—when hostilities commenced.

Rise Largely Concentrated in Early September.

Individual prices for selected foodstuffs and industrial materials are given in table 1, below. It is evident that the major rise was concentrated in the first few days of war. Prices of foodstuffs generally advanced more sharply than those of industrial materials by the middle of the month, perhaps because of the relatively lower levels at which foodstuffs stood at the end of August, but probably also because of the expectation that war demands would first be felt in this class of commodities. Since then the industrial materials have tended to hold up while certain foodstuffs have experienced some corrective price movement. Prices of a few imported materials, such as cocoa and rubber, have lately been depressed by the further decline in the pound sterling.

A broader view of September price movements is given by the Bureau of Labor Statistics weekly index of wholesale prices shown. These data (table 2) show clearly that the larger part of the price rise came before September 9. The "all commodities" index rose from 74.8 for the week ended August 26 to 78.4 for the week of September 9. In this classification of wholesale prices the farm products, foods, and hides and leather products groups had the largest advances up to the middle of the month. The tendency after that time was for the price movement to broaden out and to be reflected in all groups. Though the movement of the finished products index was much slower than that for raw materials and semimanufactures, it also reflected the general upswing. According to the latest available data, farm products and foods declined fractionally.

Table 1.—Prices of Selected Foodstuffs and Industrial Materials

Item	Aug. 31	Sept. 2	Sept. 9	Sept. 16	Sept. 23	Percentage change Aug. 31 to Sept. 16
FOODSTUFFS						
Wheat, No. 2, hard, Kansas City, ordinary protein....cents per bu..	66	75	84	85½	85½	+29.5
Corn, No. 3, yellow, Chicago....do....	45⅜	51	58⅛	60	57	+32.2
Rye, No. 2, c. i. f. New York....do....	58¼	64½	67¾	71⅛	72¼	+22.1
Sugar, 96° delivered, duty free cents per lb..	2.92	3.24	3.80	3.70	3.65	+26.7
Coffee, Santos, No. 4, New York...do....	7¼	7⅝	7¾	7¾	7¾	+7.7
Cocoa, Accra, New York....do....	4.47	5.00	6.60	5.95	6.23	+33.1
Hogs, Chicago [1]....dol. per cwt..	[2] 5.62	5.97	7.57	7.33	7.46	+30.4
Lard, cash, New York....cents per lb..	5.75	6.45	8.25	8.20	8.10	+42.6
Beef, Chicago [1]....dol. per cwt..	[2] 8.92	9.32	10.40	10.22	10.17	+14.6
INDUSTRIAL MATERIALS						
Cotton, 10-market average..cents per lb..	8.55	8.49	8.93	8.82	8.71	+3.2
Silk, New York....dol. per lb..	2.65	2.65	2.85	3.18	3.17	+20.0
Wool, av. for quarter-blood territory, Boston....cents per lb..	60	60	[3] 75	86	86	+43.3
Hides, heavy native steers, Chicago cents per lb..	11	[3] 11	[3] 14	16	16½	+45.5
Rubber, plantation, New York....do....	16⅞	19½	22½	22½	22½	+33.3
Copper, electrolytic, New York....do....	10½	11	12	12	12	+14.3
Lead, New York....do....	5.05	5.05	5.30	5.50	5.50	+8.9
Tin, Straits, New York....do....	49½	52	[3] 66	[3] 65	[3] 68	+31.3
Zinc, New York....do....	5.14	5.39	6.39	6.64	6.64	+29.2
Steel scrap [4]....dol. per ton..	15.46	16.62	15.62	16.75	19.25	+8.3

[1] Average of prices for week ending Saturday.
[2] Average of prices for week ending Saturday, Aug. 26, 1939.
[3] Nominal.
[4] Composite price for Tuesday of each week.

Source: Journal of Commerce.

While some response in retail prices to the rise in wholesale markets may be expected, there are no indications of a general move in this direction as yet. Certain foods, however, experienced immediate and rather substantial retail price advances. This was due to the fact that many consumers were buying far beyond their immediate needs, as well as to the price movement in wholesale markets. The rush of consumer buying in many areas swept grocers' shelves clear, for a brief time, of certain items (such as sugar, flour, and beans). The Bureau of Labor Statistics reported, after a special survey, that retail prices of 11 staple foods in the 11 cities sampled rose about 10 to 15 percent in the month following August 15, but it is unlikely that advances of this magnitude have been communicated to more than a few items. The largest increases, generally 25 percent or more, were for sugar and lard, while navy beans advanced sharply in a few cities. Coffee, cocoa, and bread did not share in the rise in most cities.

Looking at the level of prices from two angles, the sharp rise in September is rather surprising. The first is the current volumes of commodity stocks and inventories; the second is the behavior of prices during the opening weeks of the war in 1914.

Table 2.—Weekly Index Numbers of Wholesale Prices, Aug. 26–Sept. 23, 1939

[1926=100]

Group	Aug. 26	Sept. 2	Sept. 9	Sept. 16	Sept. 23
All commodities	74.8	75.3	78.4	79.3	79.5
Farm products	61.1	62.7	68.1	69.7	69.5
Foods	66.7	68.5	74.5	75.5	75.1
All commodities other than farm products and foods	80.4	80.4	81.7	82.4	83.0
Hides and leather products	92.6	92.7	96.3	99.9	101.9
Textile products	67.4	67.2	68.4	71.4	72.3
Fuel and lighting materials	73.2	73.2	74.0	74.1	74.2
Metals and metal products	93.5	93.5	94.6	94.9	95.3
Building materials	89.7	89.7	90.1	90.7	91.0
Chemicals and drugs	74.2	74.4	75.9	77.1	77.9
House-furnishing goods	87.0	87.0	87.0	87.1	88.8
Miscellaneous	73.1	73.2	76.1	76.1	76.6
Raw materials	66.2	67.1	71.8	73.0	73.0
Semimanufactured articles	74.4	74.6	79.7	82.0	83.3
Finished products	79.3	79.7	81.9	82.3	82.5

Source: Bureau of Labor Statistics, U. S. Department of Labor.

Stock Situation.

Some data on the available stocks of raw materials and semimanufactures are given in table 3. The general picture revealed by this table is that visible stocks of commodities as of the middle of this year were at rather high levels. In some cases current volumes have receded from the figures reached during the inventory boom of 1937, but current stocks of a significant number of crude products are even higher than at the end of that year. The current figure for a majority of the items is substantially above the midyear levels of 1936. This is particularly true of fats and oils, sugar, and wheat. The most significant exceptions are silk, rubber, and wool. In view of the level of industrial production and current rates of consumption, the relatively large available stocks of raw materials would seem to militate against a substantial price rise at this time.

The Dun and Bradstreet midyear survey of inventories casts some further light on the current business picture. Inventory trends since January 1, 1936, in the major classifications of retailing, wholesaling, and manufacturing are shown in figure 3. While industrial production in July of this year was only moderately higher than in January 1936, Dun's study indicates a substantially higher volume of inventories. With no significant difference in prices, the dollar values of inventories in the hands of wholesalers and manufacturers were approximately one-fifth higher on July 1 of this year than at the beginning of 1936, and retailers' stocks were up 13 percent. There has been some liquidation of inventories from the high levels reached in 1937—a change particularly evident in the decline of the manufacturing index since that time. This liquidation would be somewhat smaller on a quantity basis as prices at midyear were lower than in January 1938. The trend for the first half of this year was moderately upward, except in the case of stocks held by manufacturers, though no adjustment for seasonal changes has been made. This study suggests that substantial additions to inventories would not be required to handle the increase in business which seems likely for this winter.

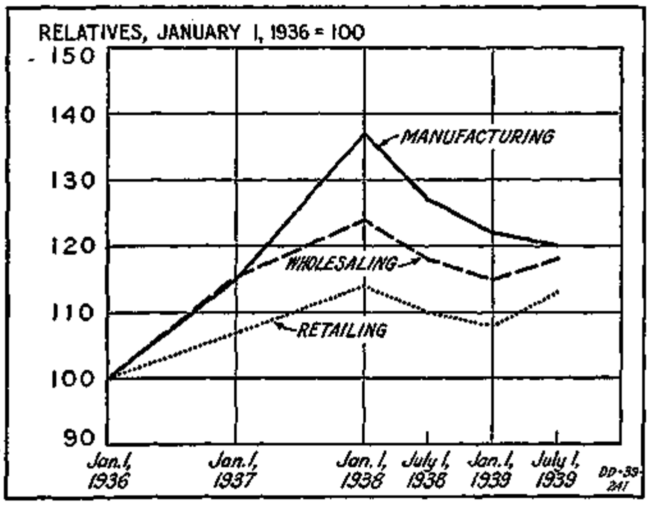

Figure 3.—Indexes of value of inventories, specified periods, 1936–39. (Dun & Bradstreet, Inc.).

Table 3.—Stocks of Selected Commodities, 1936–39

Commodity	End of—	1936	1937	1938	1939
Lumber ... M bd. ft.	July	7,804	7,927	8,511	7,979
Portland cement (includes clinker or unground cement) ... thous. of bbl.	do	24,054	30,141	29,375	28,305
Animal fats ... thous. of lb.	June	384,716	376,503	374,375	403,809
Fish oils ... do	do	148,147	149,449	159,386	180,364
Vegetable oils (crude and refined) ... thous. of lb.	do	1,122,003	1,207,021	1,399,981	1,490,813
Butter, cold-storage, creamery ... thous. of lb.	August	112,106	134,885	201,252	173,093
Lard, cold-storage ... do	do	110,561	118,094	116,620	112,145
Meats, total (excluding lard), cold-storage ... thous. of lb.	do	560,891	463,435	431,272	463,633
Wheat, world estimated (excl. U. S. S. R. and China) ... mil. of bu.	June	766	539	600	1,200
United States ... do	do	-----	83	153	254
Tobacco (leaf) ... *mil. of lb.*	do	*2,175*	*2,026*	2,179	2,136
Anthracite, producers. storage yards ... thous. of short tons	July	1,556	1,895	1,757	716
Bituminous coal, industrial and retail dealers ... thous. of short tons	do	30,126	43,371	33,615	20,575
Copper, refined ... short tons	do	218,705	117,741	339,970	316,543
Lead, refined ... do	August	218,233	103,518	142,868	117,985
Tin, visible supply, world ... long tons	do	17,642	26,016	32,251	26,338
United States ... do	do	3,005	5,850	5,232	3,618
Crude petroleum, refinable ... thous. of bbl.	July	306,390	308,726	288,664	270,570
Gasoline ... do	do	55,922	62,956	70,224	71,824
Rubber, crude, world ... long tons	do	519,074	445,782	580,654	418,639
United States ... do	August	230,167	179,590	273,841	161,358
Rubber, reclaimed ... do	do	16,487	21,600	13,918	20,645
Cotton, world ... thous. of bales	July	13,649	13,766	22,639	21,952
American cotton, world ... do	do	6,998	6,235	13,712	14,150
Foreign cotton, world ... do	do	6,651	7,531	8,927	7,802
Wool, scoured basis ... thous. of lb.	June	147,057	*142,554*	139,260	122,915
Cattle hides and leather ... thous. of equiv. hides	July	17,584	15,030	13,865	13,026
Wood pulp ... short tons	do	126,731	161,009	228,794	200,803

NOTE.—Except for world stocks of wheat and stocks of refinable crude petroleum, monthly data together with descriptive notes are given in the 1938 Supplement to the Survey of Current Business. All data refer to domestic stocks, except where otherwise specified. The statistics are not complete in all instances, but they are satisfactory for the purpose of indicating trends.

Price Movements in 1914.

The data presented in figure 4 exhibit a striking contrast between commodity price changes in the first 3 weeks of war in 1914 and 1939. The 1939 movement was a general one which embraced all of the basic commodities, but after the outbreak of war in 1914, the movement was both less substantial and more selective. Rubber, tin, and sugar at that time doubled in price during the second or third week of hostilities; other prices moved within much narrower limits, and a significant number of commodities showed a downward trend. Lead, lard, hogs, beef, cotton (not shown on chart owing to closing of exchange), and coffee were all lower during most of August 1914. The general impression one gets from the chart is that, apart from three commodities, prices were very quiet immediately after the beginning of the 1914 World War. More significant still is the fact that by the middle of September 1914 a definite corrective price movement had set in which left only zinc, wheat, cocoa, and sugar at prices above their end-of-July levels. Sugar remained at virtually double its former price, wheat was up 20 percent, zinc 9 percent, and cocoa 7 percent. All of the other 10 commodities were selling at substantially the same prices as a month and a half earlier, or within 10 percent lower. Quite obviously the market was not following a 1914 precedent when it bid prices up sharply upon the outbreak of the current European war.

The aspect of the World War situation which did decidedly affect market psychology—the spectacular rise in prices that came during the war years starting with 1916—is clearly shown in figure 5. Until the last quarter of 1915, after more than a year of war, there had been no significant movement in the major price indexes except the gradual decline in the foods index. Then a violent upward movement began which carried on through the war years and into the summer of 1920. In the period 1917 to 1919 the farm-products index advanced more rapidly than the other categories of commodities. Concentrating attention only on the period prior to the entry of the United States into the war, the general index of wholesale prices rose 58 percent—from 68.3 in September 1915 to 107.7 in March 1917. Without doubt it was this well-remembered experience of soaring prices during war that served to push up quotations over a broad front last month. Traders and producers were trying to cover their future needs as far as possible while something like a 1914–15 level of prices for the present war period still existed. And by that very action the configuration of price movements is already different for the century's second major war from that of its first.

The important question for business at the present time is whether the general shape of World War price movements will be duplicated during the present struggle. The 1916–17 rise of prices was a direct consequence of the inflationary methods used to finance the war. This communicated itself to our economic system through a materially enhanced demand for United States exports. At the outset crude foodstuffs com-

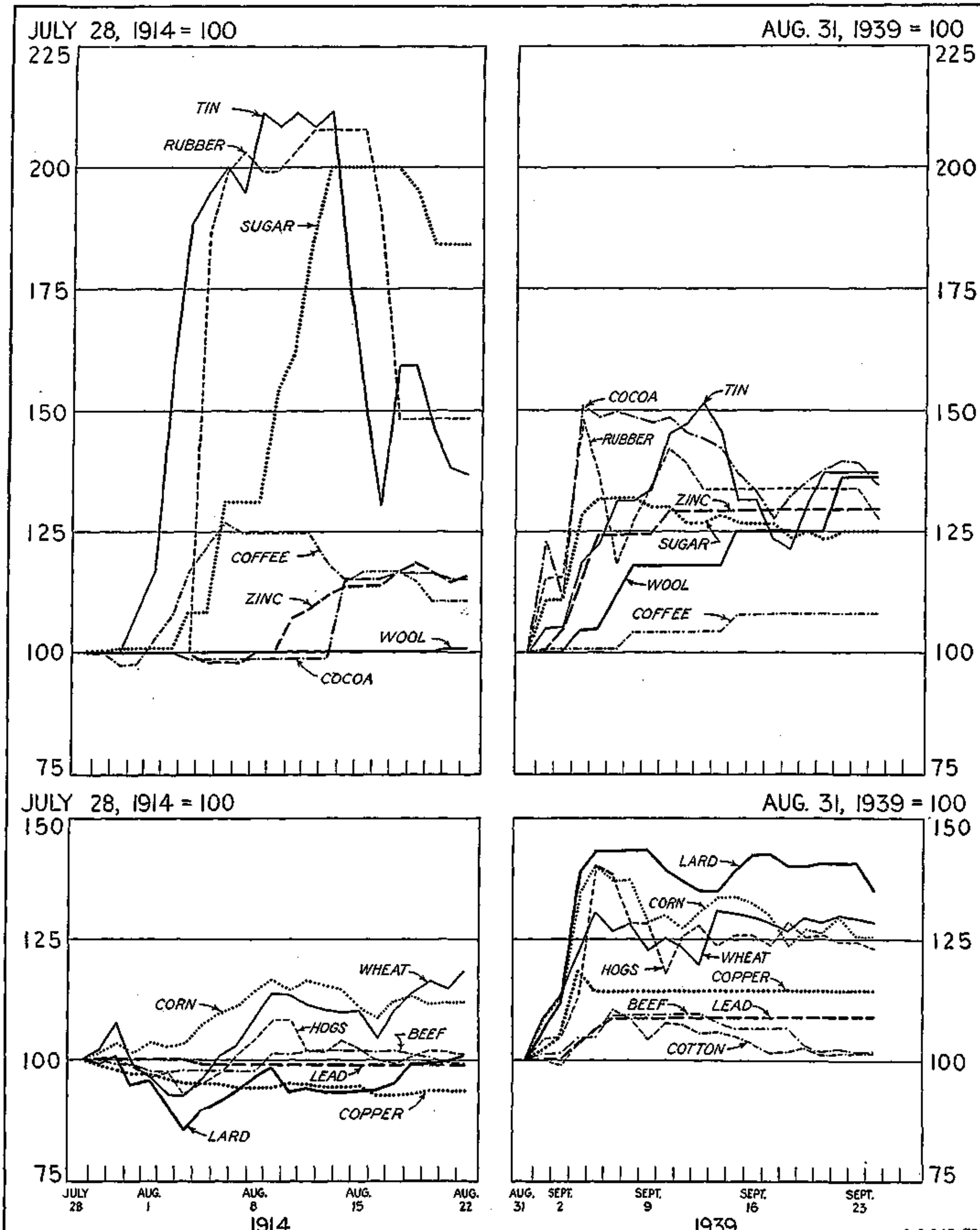

Figure 4.—Comparison of price movements of selected commodities at the outbreak of the European wars of 1914 and 1939. (Source of basic data—Journal of Commerce.)

prised the category of goods in largest demand but its importance declined as the conflict moved on. Finished manufactures showed the greatest increase as total exports continued to grow, whereas exports of crude materials, including cotton, decreased in quantity and value during the war years. The value of total exports remained rather low throughout 1914 except for December, but showed a continuous advance from 1915 to 1917. From $2,114,000,000 in 1914 exports rose to $3,555,000,000 in 1915 and to $6,234,000,000 in 1917. Of course, the major part of this rise is accounted for by mounting prices. So far as the effect upon internal United States prices and business activity is concerned, this increase in exports is crucial. For only in this way can the war stimulus be felt.

in demands due to war and the disruption of productive facilities resulting from war may be on a smaller scale.

4. The world's productive machinery and the existing stocks of raw materials are much larger now than in 1914. There is some doubt as to the net increase in demand for United States products from the Allies after the resources of the British and French Empires have been mobilized.

5. Because of widespread dissatisfaction with the economic disruption caused by the last war, it is possible that inflation will be avoided this time. The record high income tax rates announced in Britain late in the month represent a move in this direction.

6. Even if some internal inflation is allowed, imports and the whole balance-of-payments position of the

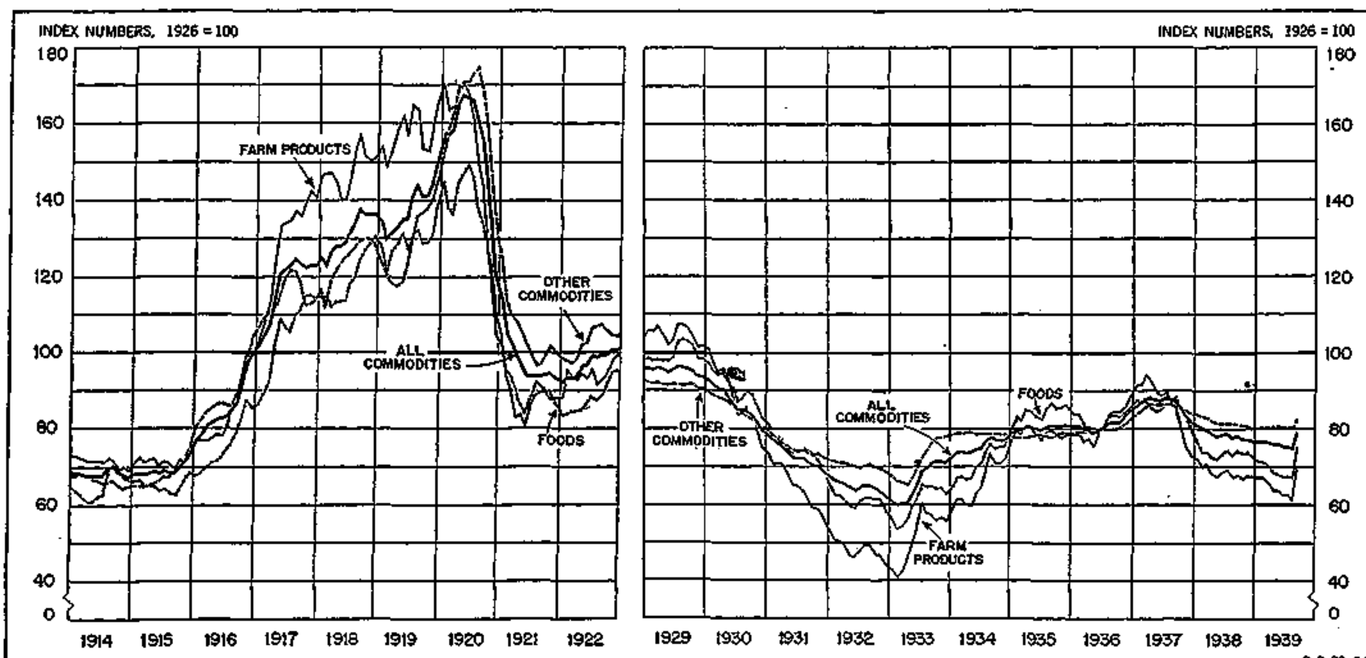

Figure 5.—Indexes of wholesale prices, by groups, 1914–22 and 1929–39. (U. S. Department of Labor.)

NOTE.—September 1939 prices are estimates based upon available data.

It may now seem probable to many that the present war will likewise be financed through inflationary procedures and that our exports will respond sharply to that stimulus. There are, however, many factors in the situation which may cause disappointment to this expectation and which create the possibility that September's price rises may not be validated.

1. The war may not prove to be a long one, in which case no significant demand for our exports may arise.

2. The intensive preparations made for war since 1936 stand in marked contrast to the unexpectedness of the last war. Presumably the belligerents have accumulated sizable stocks of required materials. For 2 years or more our exports have been feeling the effects of the armaments boom abroad.

3. The war to date is on a much smaller scale than in 1914, and hence the demands for our products may be much smaller. If Russia, Italy, the Balkan countries, and Belgium stay out of the conflict, both the increase

belligerents may be so rigidly controlled that there is no net effect on our economy. This has been the case with Germany for the past 5 years. England and France have already announced exchange control, and the decline in sterling last month indicates that England does not fear a decline in imports and is definitely discouraging capital exports.

Lastly, with regard to the immediate future, there is a decided possibility, as was the case in 1914, that a period of 6 months or so may elapse before war orders in any sizable volume materialize. If so, there is a reasonable doubt that a higher level of prices can be maintained in the interval.

It is necessary to emphasize, however, that price relationships as of the end of August may not have accurately reflected current and prospective supply and demand conditions. Thus, even some readjustment of prices from the gains made in September is not apt to reestablish the pre-war levels.